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<u>S144</u>	<u>U</u>	USPT	5495034	2001-05-02 16:10:02	
<u>S143</u>	<u>U</u>	USPT	oxidation same (perfluoroalkyl adj alcohol\$)	2001-05-01 21:02:02	
<u>S142</u>	<u>U</u>	USPT	(perfluoroalkyl adj alcohol\$) adj oxidation	2001-05-01 21:01:44	
<u>S141</u>	<u>U</u>	USPT	(perfluoroalkyl adj alcohol\$) with oxidation	2001-05-01 21:01:29	
<u>S140</u>	<u>U</u>	USPT	(perfluoroalkyl adj alcohol\$) same (perfluoroalkyl adj acid\$)	2001-05-01 21:00:52	
<u>S139</u>	<u>U</u>	USPT	(perfluoroalkyl adj alcohol\$) with (perfluoroalkyl adj acid\$)	2001-05-01 21:00:45	
<u>S138</u>	<u>U</u>	USPT	(perfluoroalkyl adj alcohol\$) with19	2001-05-01 21:00:37	
<u>S137</u>	<u>U</u>	USPT	(perfluoroalkyl adj alcohol\$) and (perfluoroalkyl adj acid\$)	2001-05-01 21:00:28	
<u>S136</u>	<u>U</u>	USPT	perfluoroalkyl adj alcohol\$	2001-05-01 21:00:00	
<u>S135</u>	<u>U</u>	USPT	perfluoroalkyl adj acid\$	2001-05-01 20:58:56	
<u>S134</u>	<u>U</u>	USPT	perfluoroalkylacid\$	2001-05-01 20:58:18	
<u>S133</u>	<u>U</u>	USPT	(perfluoroalkanol) same (perfluoroalkanoic adj acid)	2001-05-01 20:56:23	
<u>S132</u>	<u>U</u>	USPT	(perfluoroalkanol) with (perfluoroalkanoic adj acid)	2001-05-01 20:56:09	
<u>S131</u>	<u>U</u>	USPT	(perfluoroalkanol) and (perfluoroalkanoic adj acid)	2001-05-01 20:55:56	
<u>S130</u>	<u>U</u>	USPT	perfluoroalkanoic adj acid	2001-05-01 20:55:18	

<u>S129</u>	<u>U</u>	USPT	perfluoroalkanol with oxidation	2001-05-01 20:55:02
<u>S128</u>	<u>U</u>	USPT	perfluoroalkanol same oxidation	2001-05-01 20:54:46
<u>S127</u>	<u>U</u>	USPT	perfluoroalkanol	2001-05-01 20:54:27
<u>S126</u>	<u>U</u>	USPT	perfluoroalkanol	2001-05-01 20:53:41
<u>S125</u>	<u>U</u>	USPT	(acid\$) same ((oxidation)same ((alcohol\$)same (fluoro\$)))	2001-05-01 19:31:27
<u>S124</u>	<u>U</u>	USPT	(oxidation) same ((alcohol\$)same (fluoro\$))	2001-05-01 19:30:47
<u>S123</u>	<u>U</u>	USPT	(alcohol\$) same (fluoro\$)	2001-05-01 19:30:00
<u>S122</u>	<u>U</u>	USPT	acid\$	2001-05-01 19:28:14
<u>S121</u>	<u>U</u>	USPT	acid	2001-05-01 19:28:03
<u>S120</u>	<u>U</u>	USPT	oxidation	2001-05-01 19:27:47
<u>S119</u>	<u>U</u>	USPT	alcohol\$	2001-05-01 19:27:20
<u>S118</u>	<u>U</u>	USPT	fluoro\$	2001-05-01 19:26:21
<u>S117</u>	<u>U</u>	USPT	(perfluoroalkyl adj alcohol) same (perfluoroalkyl adj acid)	2001-05-01 19:18:16
<u>S116</u>	<u>U</u>	USPT	(perfluoroalkyl adj alcohol) samw (perfluoroalkyl adj acid)	2001-05-01 19:18:04
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<u>S114</u>	<u>U</u>	USPT	(perfluoroalkyl adj alcohol) with (perfluoroalkyl adj acid)	2001-05-01 19:17:43
<u>S113</u>	<u>U</u>	USPT	perfluoroalkyl adj alcohol	2001-05-01 19:17:13
<u>S112</u>	<u>U</u>	USPT	perfluoroalkyl adj acid	2001-05-01 19:16:17
<u>S111</u>	<u>U</u>	USPT	perfluoroalkylacid	2001-05-01 19:15:30
<u>S110</u>	<u>U</u>	USPT	(perfluoroacids) and (perfluoroalcohols)	2001-05-01 19:10:09
<u>S109</u>	<u>U</u>	USPT	(perfluoroacids) with (perfluoroalcohols)	2001-05-01 19:09:58
<u>S108</u>	<u>U</u>	USPT	perfluoroacids	2001-05-01 19:09:37
<u>S107</u>	<u>U</u>	USPT	perfluoroalcohols same perfluoroacids	2001-05-01

				19:09:20
<u>S106</u>	<u>U</u>	USPT	perfluoroalcohols same oxidation	2001-05-01 19:05:54
<u>S105</u>	<u>U</u>	USPT	perfluoroalcohols	2001-05-01 19:05:28
<u>S104</u>	<u>U</u>	USPT	perfluoro alcohols	2001-05-01 19:05:08
<u>S103</u>	<u>U</u>	USPT	fluoroalkylalcohol	2001-05-01 19:03:54
<u>S102</u>	<u>U</u>	USPT	(fluoroalkyl adj alcohol) and oxidation	2001-05-01 18:32:20
<u>S101</u>	<u>U</u>	USPT	(fluoroalkyl adj alcohol) with oxidation	2001-05-01 18:32:06
<u>S100</u>	<u>U</u>	USPT	(fluoroalkyl adj alcohol) same oxidation	2001-05-01 18:31:53
<u>S99</u>	<u>U</u>	USPT	fluoroalkyl adj alcohol	2001-05-01 18:31:17
<u>S98</u>	<u>U</u>	USPT	fluoroalkylcarboxylic same oxidation	2001-05-01 18:30:39
<u>S97</u>	<u>U</u>	USPT	fluoroalkylcarboxylic	2001-05-01 18:30:05
<u>S96</u>	<u>U</u>	USPT	fluoroalkyl adj carboxylic	2001-05-01 18:29:50
<u>S95</u>	<u>U</u>	USPT	fluoroalkyl adj carboxilic	2001-05-01 18:29:19

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=> d his

(FILE 'HOME' ENTERED AT 14:05:13 ON 03 MAY 2001)

FILE 'REGISTRY' ENTERED AT 14:05:25 ON 03 MAY 2001

L1 STRUCTURE UPLOADED
L2 50 S L1 SSS SAM

FILE 'CAPLUS' ENTERED AT 14:07:12 ON 03 MAY 2001
S L1 AND PREP?

L3 FILE 'REGISTRY' ENTERED AT 14:07:22 ON 03 MAY 2001
50 S L1

FILE 'CAPLUS' ENTERED AT 14:07:27 ON 03 MAY 2001
L4 31 S L3
L5 28 S L4 AND PREP?
L6 6 S L5 AND FLUORO
L7 0 S L3 AND OXIDATION?
L8 0 S L4 AND OXIDATION
S L1

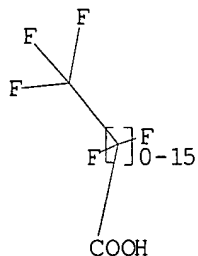
L9 FILE 'REGISTRY' ENTERED AT 14:12:07 ON 03 MAY 2001
42451 S L1 SSS FULL

FILE 'CAPLUS' ENTERED AT 14:12:22 ON 03 MAY 2001
L10 19909 S L9 SSS FULL
L11 3703 S L9 AND S
L12 1800 S L9 AND OXIDATION?
L13 9 S L12 AND FLUOROALKYL
L14 27 S L12 AND NITRIC

=> d l1

L1 HAS NO ANSWERS

L1 STR



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Connecting via Winsock to STN

Trying 3106016892...Open

Welcome to STN International! Enter x:X

LOGINID:sssptal623fxf

PASSWORD:

* * * * * RECONNECTED TO STN INTERNATIONAL * * * * *
SESSION RESUMED IN FILE 'CAPLUS' AT 15:08:16 ON 03 MAY 2001
FILE 'CAPLUS' ENTERED AT 15:08:16 ON 03 MAY 2001
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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	120.63	277.77
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CA SUBSCRIBER PRICE	-28.22	-31.75

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FILE 'REGISTRY' ENTERED AT 14:05:25 ON 03 MAY 2001

L1 STRUCTURE UPLOADED
L2 50 S L1 SSS SAM

FILE 'CAPLUS' ENTERED AT 14:07:12 ON 03 MAY 2001
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L3 FILE 'REGISTRY' ENTERED AT 14:07:22 ON 03 MAY 2001
50 S L1

L4 FILE 'CAPLUS' ENTERED AT 14:07:27 ON 03 MAY 2001
31 S L3
L5 28 S L4 AND PREP?
L6 6 S L5 AND FLUORO
L7 0 S L3 AND OXIDATION?
L8 0 S L4 AND OXIDATION
S L1

L9 FILE 'REGISTRY' ENTERED AT 14:12:07 ON 03 MAY 2001
42451 S L1 SSS FULL

L10 FILE 'CAPLUS' ENTERED AT 14:12:22 ON 03 MAY 2001
19909 S L9 SSS FULL
L11 3703 S L9 AND S
L12 1800 S L9 AND OXIDATION?
L13 9 S L12 AND FLUOROALKYL
L14 27 S L12 AND NITRIC

=> d l14 1-27 abs cbib

L14 ANSWER 1 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB The aluminide alloy coating or worn interlayer on a superalloy substrate is treated with acidic stripping soln. for degrading, followed by mech. removal. The stripping bath contains: (a) aliph. or arom. sulfonic acid; (b) secondary acid, esp. a mineral acid at 0.1-10%; and (c) additives for complexing, oxidn., and/or redn. The acid-treated coating is then removed mech., esp. by shot blasting.. The stripping process is improved by the use of 2-bath system for the rapid initial removal of aluminide layer, followed by a slow removal of the residual layer to prevent pitting corrosion of the superalloy substrate. The Pt-aluminide layer .apprx.50 .mu.m thick on Rene N-5 superalloy was removed in 45 min at 49.degree. by the stripping in aq. 50% methanesulfonic acid, followed by gently grit blasting the residue with SiC powder. The process was improved by the 1st-stage etching for 10 min in the HCl-EtOH bath at 25, followed by the 2nd-stage stripping for 20 min at 23.degree. in the aq. 50% methanesulfonic acid and then gently grit blasting the residue, for selective removal of the aluminide coating without pitting the substrate.

2000:790217 Document No. 133:338651 Acidic redox bath for selective removal of aluminide coating from superalloy substrates. Macdonald, Leo Spitz; Sangeeta, D.; Rosenzweig, Mark Alan (General Electric Company, USA). Eur. Pat. Appl. EP 1050604 A1 20001108, 13 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2000-303700 20000503. PRIORITY: US 1999-303755 19990503.

L14 ANSWER 2 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB Claimed is a process for producing a fluoroalkylcarboxylic acid represented by the general formula $RfCO_2H$ (wherein Rf represents C1-16 fluoroalkyl), characterized by oxidizing a fluoroalkyl alc. represented by the general formula $RfCH_2OH$ (wherein Rf is the same as the above) with **nitric** acid in the presence of a metal catalyst. By the process, a fluoroalkylcarboxylic acid, which is useful as raw material for surfactants, drugs, and agrochems., can be highly selectively produced at a low cost. Thus, $H(CF_2)_6CH_2OH$ 664.0, 55% HNO_3 114.6 g, and $FeCl_2 \cdot nH_2O$ 0.0066 g were placed in an autoclave and heated with stirring. The temp. and pressure reached 125.degree. and 0.6 MPa after 3.1 h. At this point, O was fed to the gas phase portionwise at 0.35 g for each time at a total of 46.72 g to control the pressure at 0.6 MPa. After 6.5 h, the reaction mixt. was phase-sepd. to give crude 765.78 g $H(CH_2)_6CO_2H$ which was purified by distn. to give 500.0 g $H(CH_2)_6CO_2H$ of .gtoreq.99% in 65.26% yield.

Applicant's
PCT

1999:784057 Document No. 132:22694 Process for producing fluoroalkylcarboxylic acid. Ichihara, Kazuyoshi; Aoyama, Hirokazu (Daikin Industries, Ltd., Japan). PCT Int. Appl. WO 9962859 A1 19991209, 19 pp. DESIGNATED STATES: W: JP, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1999-JP2679 19990520. PRIORITY: JP 1998-154507 19980603.

L14 ANSWER 3 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB Lower alkanes (e.g., methane) are catalytically oxidized into esters and, optionally, various derivs. (e.g., methanol) in an oxidizing acidic media (e.g., H_2SO_4) using stable platinum-group metal-bidiazine ligand catalyst complexes (e.g. Pt and 2,2'-bipyrimidine), and co-catalyst salts of tellurium or antimony, which are stable in the oxidizing acidic media at elevated temps. (e.g., for .gtoreq.10 min at 180.degree.). These platinum-group metal catalyst complexes have both increased selectivity, stability, and activity over prior-art mercury catalyst systems.

1998:742306 Document No. 129:317922 **Oxidation** process and ligated platinum-group metal catalysts for the conversion of lower alkanes into esters and their derivatives. Periana, Roy A.; Taube, Douglas J.; Gamble, Scott; Taube, Henry (Catalytica, Inc., USA). PCT Int. Appl. WO 9850333 A1 19981112, 38 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS,

JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1997-US7772 19970506. PRIORITY: US 1996-637067 19960424.

L14 ANSWER 4 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB A conference in which the title subject was discussed. Adamantane in trifluoroacetic acid contg. Palladium(II) acetate (I) gives 10-15% 1-adamantyl trifluoroacetate. The reaction is not sensitive to the preparative method or history of I prepn. even though the properties (IR, XRD, and/or color) of I are dependent on these. The best reaction reproducibility occurred using bipyridylbisacetopalladium(II). Adamantane was also converted to 1-adamantanol by hydrogen peroxide in trifluoroacetic anhydride or by **nitric** acid in trifluoroacetic acid. The **oxidn.** by cobalt(III) trifluoroacetate was also discussed.

1995:342170 Document No. 122:187001 The **oxidation** of adamantane in trifluoroacetic acid. Beattie, J.K.; Kacanik, S.; MacLeman, S.J.; Masters, A.F. (Department of Inorganic Chemistry, University of Sydney, 2006, Australia). Stud. Surf. Sci. Catal., 81(Natural Gas Conversion II), 551-3 (English) 1994. CODEN: SSCTDM. ISSN: 0167-2991. OTHER SOURCES: CASREACT 122:187001.

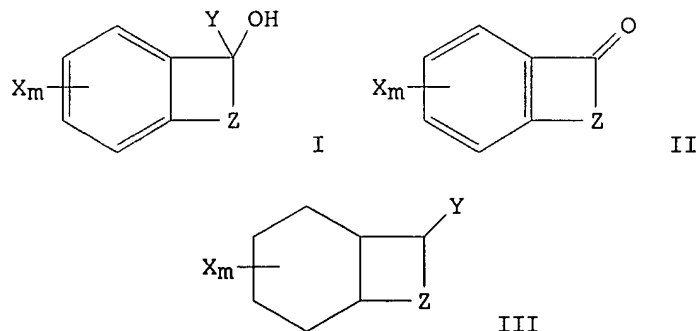
L14 ANSWER 5 OF 27 CAPLUS COPYRIGHT 2001 ACS

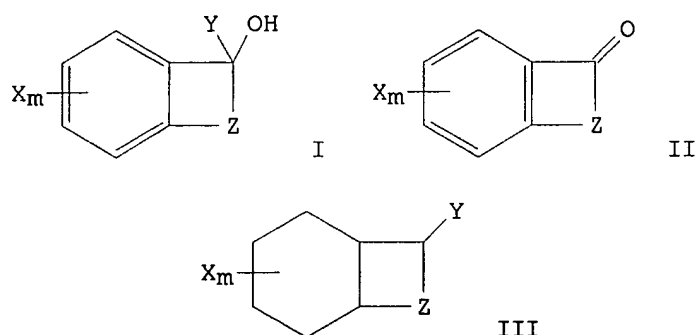
AB A process for converting lower alkanes into their corresponding esters and optionally into various intermediates such as alcs. and other liq. hydrocarbons such as gasoline (no data), at high selectivity and conversion and at practical reaction rates, using as oxidizing agent an **oxidn.** resistant acid with a Pka <2.0 and a catalyst in at least a catalytic amt. of one or more metals of class B of the Mendeleev table and Pearson soft and borderline metal cations at esterification conditions to a lower alkyloxy-ester. A reactor was charged with H2SO4 and HgSO4, stirred and flushed with CH4, heated at 188.degree. under 1800 psig CH4, cooled to room temp. and an aliquot was analyzed for Me sulfate. A 2nd aliquot was 1st dild. with H2O and heated for 2 h to give MeOH.

1994:507977 Document No. 121:107977 Catalytic process for converting lower alkanes to esters, alcohols, and to hydrocarbons. Periana, Roy A.; Taube, Douglas J.; Taube, Henry; Evitt, Eric R. (Catalytica, Inc., USA). U.S. US 5306855 A 19940426, 10 pp. Cont.-in-part of U.S. 5,233,113. (English). CODEN: USXXAM. APPLICATION: US 1991-799446 19911226. PRIORITY: US 1991-656910 19910215; US 1991-766200 19910926.

L14 ANSWER 6 OF 27 CAPLUS COPYRIGHT 2001 ACS

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AB Alcs. $X_mC_6H_5-mC(OH)R_1R_2$ [$R_1, R_2 = H$, (un)substituted C1-20 alkyl, (un)substituted phenylalkyl, cycloalkyl, etc.; $X = H$, halogen, C1-6 alkyl, C1-6 alkoxy, Ph, PhO; $m = 1, 2$], I [$Y = H$, halogen, C1-6 alkyl, C1-6 alkoxy, Ph, PhO; $Z = (CH_2)_2, (CH_2)_3$, (un)substituted annulated benzo ring] and ketones $X_mC_6H_5-mCOR_1$ or II, are prepd. by the catalytic oxidn ./hydroxylation of $X_mC_6H_5-mCHR_1R_2$ or III in the presence of O, an aldehyde, and an optional proton donor and solvent, using a transition metal-contg. catalyst. Thus, PhEt was oxidized by O (20% conversion) to PhCHMeOH and PhAc in CH_2Cl_2 , using Fe, heptanal, and AcOH at 25.degree. over 15 h.

1993:408501 Document No. 119:8501 Process and catalysts for the conversion of alkylaryl compounds into alcohols and ketones. Murahashi, Shunichi; Oda, Yoshiaki (Sumitomo Chemical Co., Ltd., Japan). Eur. Pat. Appl. EP 531715 A1 19930317, 37 pp. DESIGNATED STATES: R: BE, DE, FR, GB, IT, NL. (English). CODEN: EPXXDW. APPLICATION: EP 1992-113462 19920807. PRIORITY: JP 1991-199221 19910808; JP 1991-275381 19911023; JP 1991-277689 19911024; JP 1992-52439 19920311.

L14 ANSWER 7 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB L-NG-Methylarginine (NMA) is an established mechanism-based inactivator of murine macrophage nitric oxide synthase (mNOS). In this report, NMA is shown to irreversibly inhibit both mNOS ($kinact = 0.08 \text{ min}^{-1}$) and the recombinant constitutive brain NOS (bNOS). For both NOS isoforms, metab. of NMA parallels that of the natural substrate L-arginine (ARG), in that it undergoes a regiospecific, NADPH-dependent hydroxylation to form L-hydroxy-NG-methylarginine (NOHNMA). This intermediate then undergoes further NADPH-dependent oxidn. to form L-citrulline (CIT). Authentic NOHNMA, synthesized from L-ornithine, irreversibly inhibited both mNOS ($kinact = 0.10 \text{ min}^{-1}$) and bNOS in an NADPH-dependent reaction. The conversion of either NMA or NOHNMA to CIT correlated with irreversible enzyme inactivation. Thus, the data suggest that enzyme inhibition occurs as a consequence of oxidative metab. of the intermediate, NOHNMA. A unified mechanism is proposed that accounts for NO biosynthesis from ARG, for the inactivation of NOS by NMA and for the intermediacy of hydroxylated ARG or NMA derivs. in these processes.

1993:228860 Document No. 118:228860 Irreversible inactivation of macrophage and brain nitric oxide synthase by L-NG-methylarginine requires NADPH-dependent hydroxylation. Feldman, Paul L.; Griffith, Owen W.; Hong, Hui; Stuehr, Dennis J. (Res. Inst., Glaxo Inc., Research Triangle Park, NC, 27709, USA). J. Med. Chem., 36(4), 491-6 (English) 1993. CODEN: JMCMAR. ISSN: 0022-2623.

L14 ANSWER 8 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB Claimed is a process for the treatment of a quaternary onium salt which comprises: a) contacting an org. phase sparingly miscible in H_2O contg. $RCO_2-A-R_1R_2R_3R_4$ [$A = N, P$; $R_1-R_4 =$ (substituted) hydrocarbyl; R_1 and R_2 or R_1, R_2 and R_3 or R_1, R_2, R_3 and R_4 may combine to form a heterocyclic

ring; RCO₂⁻ = C₂-15 polyfluorocarboxylate anion] with an aq. phase contg. a thiocyanate ion to form a quaternary onium thiocyanate in the org. phase; and b) contacting the org. phase contg. the quaternary onium thiocyanate with an aq. soln. contg. a water-sol. oxidizing agent to decomp. the thiocyanate ion and to form an easily ion exchangeable quaternary salt. Also claimed is a process for prepg. hexafluoropropylene oxide from hexafluoropropylene in a two-phase system of an org. phase sparingly miscible in water contg. a quaternary onium salt catalyst having a quaternary onium cation of A+R₁R₂R₃R₄ and an aq. phase contg. a hypochlorite salt as an oxidizing agent, which comprises: (a) contacting the org. phase contg. a quaternary onium fluorine-contg. carboxylate with decreased catalytic activity formed in the prepn. of hexafluoropropylene oxide with an aq. phase contg. a thiocyanate ion to form a quaternary onium thiocyanate in the org. phase; (b) contacting the org. phase contg. the quaternary onium thiocyanate with an aq. soln. contg. a water-sol. oxidizing agent to decomp. the thiocyanate ion; and (c) returning the obtained org. phase as the org. phase in the step of prepg. hexafluoropropylene oxide from hexafluoropropylene. **Oxidn.** of hexafluoropropylene (I) in a mixt. of CCl₂FCF₂Cl (II) and an aq. NaOCl soln. contg. trioctylmethylammonium chloride as phase-transfer catalyst gave I oxide. The II soln. contg. the catalyst with decreased catalytic activity was treated with NaSCN. The resulting salt was treated with aq. NaOCl and was then used again as a phase-transfer catalyst in the above-described **oxidn.** of I.

1990:591132 Document No. 113:191132 Process for the treatment of quaternary onium salts and its application to the preparation of hexafluoropropylene oxide. Ikeda, Masanori; Suzuki, Yoshio; Aoshima, Atsushi (Asahi Chemical Industry Co., Ltd., Japan). Eur. Pat. Appl. EP 366084 A1 19900502, 31 pp. DESIGNATED STATES: R: DE, FR, GB, IT, NL. (English). CODEN: EPXXDW. APPLICATION: EP 1989-119747 19891024. PRIORITY: JP 1988-267152 19881025.

L14 ANSWER 9 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB A method is described for the detn. of oxonium ion in strongly ionizable inorg. acids such as sulfuric (0.015-0.16M), hydrochloric (0.03-0.18M), perchloric (0.03-0.14M), **nitric** (0.03-0.16M) and phosphoric (0.02-0.09M) acids. In addn., halo substituted acetic acids such as chloroacetic (0.02-0.08M), trichloroacetic (0.03-0.16M) and trifluoroacetic (0.03-0.14M) acids can be detd. Formic acid can be detected at the 0.1M level but acetic acid could not be detected up to 0.2M. The method is based on the in situ generation of bromine from the BrO₃⁻--Br⁻--H₃O⁺ reaction; the bromine is then reacted with H₂O₂ to liberate oxygen for the **oxidn.** of luminol. A sample size of 60 .mu.L was used with a flow-rate of 2 mL min⁻¹. The reproducibility of the detn. at all the concns. studied was close to zero. Linear regression of the log-log plot of concn. (M) vs. chemiluminescence intensity [peak height (mV)] gave a correlation coeff. of 0.98-0.99 for all the acids studied, except for phosphoric and sulfuric acids which gave a correlation coeff. of 0.93 in the concn. range studied. Various parameters were optimized such as the concn. of the reactants. Electronegativity can be demonstrated using this method.

1990:150948 Document No. 112:150948 Determination of oxonium ion in strongly ionizable inorganic acids and determination of substituted acetic acids using flow injection and chemiluminescence detection. Shakir, Issam M. A.; Faizullah, Azad T. (Coll. Sci., Univ. Salahaddin, Arbil, Iraq). Analyst (London), 115(1), 69-72 (English) 1990. CODEN: ANALAO. ISSN: 0003-2654.

L14 ANSWER 10 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB Sulfuric and perchloric acids were the most active catalysts of the title reaction, but in concns. not greater than 5 .times. 10⁻³ M.

1989:631706 Document No. 111:231706 Acid-catalyzed **oxidation** of benzaldehyde by perbenzoic acid. Ivanov, I. A.; Yatchishin, I. I. (USSR).

L14 ANSWER 11 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB HNO₃, HClO₄, HReO₄, and CF₃COOH were intercalated into graphite by anodizing pieces of highly oriented pyrolytic graphite. Attempts to intercalate ClCH₂COOH failed. Voltammetric measurements and pulsed galvanostatic expts. were performed to ascertain possible side reactions as well as the reversibility of the intercalation process. Whereas the intercalation reaction proved to be fast in the cases of HNO₃, HClO₄ and HReO₄, it was slow and superposed by side reactions when CF₃COOH was used.

1989:542860 Document No. 111:142860 Electrochemical investigations on graphite salts with **nitric** acid, perchloric acid, rhenic acid (HReO₄), and halogenated acetic acids. Scharff, Peter (Inst. Anorg. Anal. Chem., Tech. Univ. Clausthal, Clausthal-Zellerfeld, D-3392, Fed. Rep. Ger.). Z. Naturforsch., B: Chem. Sci., 44(7), 772-7 (German) 1989. CODEN: ZNBSEN. ISSN: 0932-0776.

L14 ANSWER 12 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB 9,10- Or lower alkyl-substituted 9,10-anthraquinones are obtained by catalytic **oxidn.** of the corresponding anthracenes with O or air in an org. solvent in the presence of NO, NO₂, or NaNO₂. The product yield is increased and the procedure simplified by using an **oxidn.** catalyst which also contains KBr at a molar ratio of anthracene:KBr:NO or NO₂, or NaNO₂ of 1:0.01-0.5:0.01-0.3, by using as 60-80% aq. F₃CCO₂H as the solvent admixt. with an org. solvent consisting of THF, Et₂O, or 1,4-dioxane at a vol. ratio of 60-80% aq. F₃CCO₂H:org. solvent of 1:0.7-1.5, and by conducting the process at room temp.

1989:517300 Document No. 111:117300 Preparation of anthraquinone or lower alkyl-substituted anthraquinone by **oxidation** of anthracenes with nitrogen oxides in aqueous trifluoroacetic acid solvent mixtures. Makhon'kov, D. I.; Cheprakov, A. V.; Khandin, A. V.; Beletskaya, I. P. (Moscow State University, USSR). U.S.S.R. SU 1467049 A1 19890323 From: Otkrytiya, Izobret. 1989, (11), 36. (Russian). CODEN: URXXAF. APPLICATION: SU 1987-4265886 19870622.

L14 ANSWER 13 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB The electrochem. behavior of polyaniline prepd. in aq. soln. with various acid electrolytes is described. Electroactive polyaniline with 2 different cyclic voltammograms, i.e., with and without the addnl. peak at 500 mV, can be produced by controlling the c. d. during the prepn. The **oxidn.** reaction is coulombically reversible, and the rate depends on the acidity of the soln. but is independent of the nature of the counter anion. In solns. more acidic than 0.1 M, the charge is linear with time in the initial period. In 10⁻³ M acid the charge waves result when the soln. contains both org. salt and protic acid electrolyte. Polyaniline is stable in the dry state but not in aq. electrolyte. TGA shows that the material dehydrates at 80.degree. and completely decomp. at 185.degree.. SEM anal. show that the initially deposited film is a continuous film and that the subsequent deposit has a fibril structure.

1988:500673 Document No. 109:100673 Electrolyte effects on the switching reaction of polyaniline. LaCroix, Jean-Christophe; Diaz, A. F. (Almaden Res. Cent., IBM, San Jose, CA, 95120-6099, USA). J. Electrochem. Soc., 135(6), 1457-63 (English) 1988. CODEN: JESOAN. ISSN: 0013-4651.

L14 ANSWER 14 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB The electro-oxidative polymn. C₆H₆ in the presence of strong acids yields poly(p-phenylene) efficiently. A strong protonic acid such as trifluoromethanesulfonic acid or a Lewis acid such as AlCl₃ forms a complex with C₆H₆ and reduces the **oxidn.** potential C₆H₆ to 1.7 V, which brings about the high current efficiency. The acids act both as an electrolyte and as a catalyst in this polymn.

1988:493674 Document No. 109:93674 Preparation of poly(p-phenylene) by electrooxidative polymerization in acidic media. Yamamoto, Kimihisa; Asada, Toshio; Nishide, Hiroyuki; Tsuchida, Eishun (Dep. Polym. Chem., Waseda Univ., Tokyo, 160, Japan). Bull. Chem. Soc. Jpn., 61(5), 1731-4 (English) 1988. CODEN: BCSJA8. ISSN: 0009-2673.

L14 ANSWER 15 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB The carboxylation with CO of arom. C-H bonds, catalyzed by palladium acetate, occurs with good yields and under mild conditions (1 atm of CO and 20-50.degree.), with trifluoroacetic acid as solvent and sodium acetate as cocatalyst. The reaction, which is stoichiometric with respect to palladium, can be transformed into a pseudocatalytic process by addn. of an excess of a specific oxidant, which is consumed stoichiometrically to regenerate palladium(II) continuously. The more efficient oxidants are mercury(II) acetate, thallium(III) trifluoroacetate, and sodium nitrate. With substituted arom. derivs., such as toluene and anisole, or condensed arom. systems such as naphthalene, the pattern of the ring substitution is typical of electrophilic reactions; in the presence of specific oxidants the regioselectivity of the ring substitution is increased with respect to the stoichiometric reaction.

1988:492099 Document No. 109:92099 Catalysis by palladium salts. Part 2. Palladium-catalyzed carboxylation with carbon monoxide of aromatic compounds working under mild conditions. Ugo, Renato; Chiesa, Anna (Dip. Chim. Inorg. Metallorg., Univ. Milano, Milan, 20133, Italy). J. Chem. Soc., Perkin Trans. 1 (12), 2625-9 (English) 1987. CODEN: JCPRB4. ISSN: 0300-922X.

L14 ANSWER 16 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB The kinetics were studied of the **oxidn.** of a graphite anode in a diaphragm-free electrolytic cell at 90-95.degree.. The effect is shown of the electrolyte compn. on the yield of mellitic acid from such a process. A method was developed for the sepn. and anal. of the product. The best electrolytes were H2SO4, HClO4, H3PO4, and CF3COOH at concns. of 0.02-0.1M. The salts of the transition metals Cu(II), V(IV), Ce(III), and Mn(VII) have essentially no catalytic effect. The C of the anode is converted to mellitic acid 5-7, to nonoxidized graphitic waste .apprx.45, and to other products (CO2 and water-sol. compds.) .apprx.50%. There is no induction period for the reaction. The yield of mellitic acid is proportional to the time over a period of 10-2000 h and amts. to 20-30 wt.% of the oxidized graphite.

1988:413539 Document No. 109:13539 Anodic **oxidation** of graphite to mellitic acid in aqueous electrolyte solutions. Rudakov, E. S.; Rudakova, R. I.; Kucheryavenko, V. I.; Yaroshenko, A. P.; Zubova, T. I. (Inst. Fiz.-Org. Khim. Uglekhim., Kiev, USSR). Khim. Tverd. Topl. (Moscow) (2), 66-70 (Russian) 1988. CODEN: KTVTBY. ISSN: 0023-1177.

L14 ANSWER 17 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB Improved procedures for the prepn. of Ru2(.mu.-O2CR)4L2, and substitutions of either the bridged carboxylate or axial ligands (L) are described. Among new bridged compds. are Ru2(.mu.-O2CCF3)4, {Na3[Ru2(.mu.-O2CO)4].cntdot.6H2O}n, and Ru2(.mu.-N3Ph2)4; adducts of the triazenide include Ru2(.mu.-N3Ph2)4(NO)2, Ru2(.mu.-N3Ph2)4(Me3CNC), and Ru2(.mu.-N3Ph2)4(CO)2. Reactions of the carboxylates with donors such as isocyanides, pyridine, phosphines, or CO leads in some cases to bridge cleavage and products such as trans-Ru(O2CR)2(py)4 or Ru(O2CR)2(PPh3)2 (R = Me or CF3), while the reactions with NO yield the diamagnetic Ru2(.mu.-O2CR)4(NO)2. The complexes were characterized by IR, NMR, ESR, and electronic spectra and cyclic voltammetry. The x-ray crystal structures of Ru2(.mu.-O2CCF3)4(THF)2 and Ru2(.mu.-O2CR)4(NO)2 (R = Et or CF3), and {Na3[Ru2(.mu.-O2CO)4].cntdot.6H2O}n are reported.

1988:142065 Document No. 108:142065 Reactions of tetra-.mu.-carboxylato-diruthenium(II,II) compounds. X-ray crystal structures of

tetra- μ -trifluoroacetatodiruthenium(II,II)-tetrahydrofuran(1/2),
tetra- μ -propionato- and tetra- μ -trifluoroacetato-
bis[nitrosylruthenium(I)] and trisodium tetra- μ -carbonato-
diruthenate(II,III) hexahydrate. Lindsay, Alan J.; Wilkinson, Geoffrey;
Motevalli, Majid; Hursthouse, Michael B. (Chem. Dep., Imp. Coll., London,
SW7 2AY, UK). J. Chem. Soc., Dalton Trans. (11), 2723-36 (English) 1987.
CODEN: JCDBTBI. ISSN: 0300-9246.

L14 ANSWER 18 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB The thermal decompn. of $(\text{Ph}_3\text{P})_2\text{N}[\text{Fe}(\text{N}_3)_2\text{Pc}]$ (H_2Pc = phthalocyanine) gave $(\text{FePc})_2\text{N}$ which was also prepd. by decompn. of $\{\text{Fe}(\text{N}_3)_2[\text{Pc}(1-)]\} \cdot 0.25\text{I}_2$. $(\text{FePc})_2\text{N}$ reacted with excess Br, $\text{CF}_3\text{CO}_2\text{H}$ or HNO_3 in CH_2Cl_2 to give $[(\text{XFePc})_2\text{N}]\text{X}$ (I; X = Br, CF_3CO_2 , NO_3). $(\text{FePc})_2\text{N}$ and I were characterized by IR, ESR and Moessbauer spectra and magnetic moments. The Fe atoms in $(\text{FePc})_2\text{N}$ are equiv., and $(\text{FePc})_2\text{N}$ has electronic properties similar to $[\text{Fe}(\text{TPP})]_2\text{N}$ (H_2TPP = tetraphenylporphyrin) with more pronounced Fe(IV) character. The most probable valency formalism of I is $[\text{XFeIVPc}(1-)\text{N}:\text{FeIVPc}(1-)\text{X}]^+$.

1988:67798 Document No. 108:67798 Iron(IV) phthalocyanines. Magnetic and spectral features of μ -nitrido-iron-phthalocyanine, $(\text{FePc})_2\text{N}$ and of some oxidized derivatives. Kennedy, Brendan J.; Murray, Keith S.; Homborg, Heinrich; Kalz, Winfried (Dep. Chem., Monash Univ., Clayton, 3168, Australia). Inorg. Chim. Acta, 134(1), 19-21 (English) 1987. CODEN: ICHAA3. ISSN: 0020-1693.

L14 ANSWER 19 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB The cyclic potential sweep (CPS) method was applied to aniline electropolymer. in several strong acids (H_2SO_4 , HNO_3 , HCl , HBF_4 , HClO_4 and CF_3COOH). It is mainly the type of anion that det. the morphol. of polyaniline (PANI) deposits, promoting either a compact (BF_4^- , ClO_4^- and CF_3COO^- , class 1 anions) or an open structure (SO_4^{2-} , NO_3^- and Cl^- , class 2 anions), as suggested by the linear (class 1) or quadratic (class 2) dependence of deposition charges on no. of cycles, scan rate and concn. of anilinium and anion, as well as by SEM anal. From the potential dependence of deposition currents, PANI growth onto PANI is suggested to occur via adsorption of anilinium-anion ionic couples onto fully oxidized sites of PANI.

1988:64547 Document No. 108:64547 Cyclic potential sweep electropolymerization of aniline. The role of anions in the polymerization mechanism. Zotti, G.; Cattarin, S.; Comisso, N. (Ist. Polarogr. Electrochim. Prep., Padua, 35020, Italy). J. Electroanal. Chem. Interfacial Electrochem., 239(1-2), 387-96 (English) 1988. CODEN: JEIEBC. ISSN: 0022-0728.

L14 ANSWER 20 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB The electrochem. prepn. and properties are described of polyaniline films prepd. on a bare Pt electrode and on electrodes precoated with a thin film of inert polymer. Films were prepd. and studied in several aq. acid electrolytes including H_2SO_4 , HCl , HNO_3 , $\text{F}_3\text{CSO}_3\text{H}$, HF , and $\text{F}_3\text{CCO}_2\text{H}$. It was obsd. that both the concn. and nature of the acid influence the kinetics of the switching reaction. In the more acidic solns., the reaction has a t dependence and depends on the movement of a front across the thickness of the film. In the less acidic solns., the reaction has a $t^{1/2}$ dependence and depends on the diffusion of ions in the film. The same response was obsd. for the oxidn. and the redn. reaction. Polyaniline is also electroactive in other various nonaq. solvents, such as, alcs., HOAc and MeCN , and voltammograms with well defined waves result when the soln. contains both org. salt and protic acid. Polyaniline was also prepd. on a Pt electrode coated with an inert polymer film such as polymethyl methacrylate (PMMA). The resulting polymer blend is electroactive and the switching reaction is slower than for polyaniline formed on a bare Pt electrode.

1987:523082 Document No. 107:123082 Electrooxidation of aromatics to polymer films. LaCroix, Jean Christophe; Diaz, A. F. (Almaden Res. Cent., IBM Res., San Jose, CA, 95120-6099, USA). Makromol. Chem., Macromol. Symp., 8, 17-37 (English) 1987. CODEN: MCMSES.

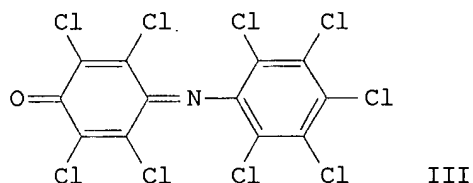
L14 ANSWER 21 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB The sorption of HNO_3 -AcOH and HNO_3 - CF_3COOH vapor mixts. by anthracite at 130-190.degree. was studied from the kinetics of wt. increase. The high sorption capacity of anthracite was related to a synergistic effect. The sorption of HNO_3 in the initial stage leads to the **oxidn.** of polyarene fragments, thus stimulating the absorption of the carboxylic acid, which in turn stabilizes the sorbent and increases its capacity for HNO_3 .

1987:52635 Document No. 106:52635 Simultaneous insertion of **nitric**, acetic, and trifluoroacetic acid vapors into anthracite. Rudakov, E. S.; Sapunov, V. A.; Metlova, L. P.; Kucherenko, V. A.; Zverev, I. V. (Inst. Fiz.-Org. Khim. Uglekhim., Donetsk, USSR). Khim. Tverd. Topl. (Moscow) (6), 99-104 (Russian) 1986. CODEN: KTVTBY. ISSN: 0023-1177.

L14 ANSWER 22 OF 27 CAPLUS COPYRIGHT 2001 ACS

GI



AB The prepn. of $(\text{C}_6\text{Cl}_5)_2\text{NO}$.bul. (I) and its precursor $(\text{C}_6\text{Cl}_5)_2\text{NOH}$ (II) are described. Steric and electronic effects stabilize I to attack from Cl_2 , HCl , $\text{CF}_3\text{CO}_2\text{H}$, HNO_3 or NaOH . I and PhMe slowly gives II and $(\text{C}_6\text{Cl}_5)_2\text{NOCH}_2\text{Ph}$. I and fuming HNO_3 gives $\text{C}_6\text{Cl}_5\text{NO}_2$ and chloranil. I in oleum gives the p-quinonimine III and $(\text{C}_6\text{Cl}_5)_2\text{NH}$ (IV) via the intermediacy of a nitrenium ion. Ascorbate reduces I to II, and ascorbic acid reduces I to IV. The mechanism of these reactions and the ESR of I are discussed.

1985:5416 Document No. 102:5416 Synthesis and properties of the perchlorodiphenylaminyloxy radical. Ballester, M.; Riera, J.; Castaner, J.; Onrubia, C. (Inst. Quim. Org. Apl., Barcelona, Spain). An. Quim., Ser. C, 79(3), 310-16 (Spanish) 1983. CODEN: AQSBD6. ISSN: 0211-1357.

L14 ANSWER 23 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB The reaction of Sb with HNO_3 , NO_2 , NO-O mixts., nitrosyl carboxylates, and HNO_3 in RCO_2H (R = hydrocarbyl, halohydrocarbyl) at 40-120.degree. gave Sb tricarboxylates. A mixt. of Sb, HNO_3 , HOAc , and Ac_2O was heated at 90.degree. to give $\text{Sb}(\text{OAc})_3$.

1984:591155 Document No. 101:191155 Antimony (III) carboxylates. Goel, Anil B. (Ashland Oil, Inc., USA). U.S. US 4469636 A 19840904, 3 pp. (English). CODEN: USXXAM. APPLICATION: US 1983-471409 19830302.

L14 ANSWER 24 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB Nitrosation of $(\text{p-RC}_6\text{H}_4)_2\text{NH}$ (R = H, MeO) with HONO in alcs. proceeded by **oxidn.** to the corresponding cation radicals, which also reacted with NO to give, e.g., 67% $(\text{p-MeOC}_6\text{H}_4)_2\text{NNO}$. Ph_2NNO .bul.+ formed analogously reacted with $\text{CF}_3\text{CO}_2\text{H}$ to give $\text{p-PhN+H}_2\text{C}_6\text{H}_4\text{C}_6\text{H}_4\text{N+H}_2\text{Ph-p}$.

1984:67915 Document No. 100:67915 Formation and transformations of cation radicals in N-nitrosation of diarylamines by nitrous acid. Koshechko, V. G.; Inozemtsev, A. N. (Inst. Fiz. Khim. im. Pisarzhevskogo, Kiev, USSR). Zh. Obshch. Khim., 53(9), 2119-22 (Russian) 1983. CODEN: ZOKHA4. ISSN:

L14 ANSWER 25 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB Nitration of PhR (R = H, Me) in CF₃CO₂H with NaNO₂ [N(III)] and NO₂ [N(IV)] occurs relatively slowly to produce mononitroarenes and oxidized by-products. The yield of nitroarene improves as the ratio of N reagent to substrate increases over the stoichiometric requirement and can be good (greater than 90%) if the ratio is sufficiently high. NO is the principal redn. product accompanying the conversion of N[III] or N[IV] to the N(V) state found in the nitroarene product. Evidence is presented against the intermediacy of nitrosoarenes, and the **oxidn.** of PhNO with NO₂ in CH₂Cl₂ gives a mixt. of PhN:N+ NO₃⁻ and PhNO₂. Pd(OAc)₂ and Ti₂O₃ have no detectable beneficial effect upon the rate of nitration or the yield of nitration by NO₂ in CF₃CO₂H. Wilkinson's catalyst does not effect reaction of NO₂ with PhR (R = H, Me) without solvent as reported.

1983:178523 Document No. 98:178523 Some aspects of nitration of aromatics by lower **oxidation** states of nitrogen. Milligan, Barton (Air Prod. and Chem., Inc., Allentown, PA, 18105, USA). J. Org. Chem., 48(9), 1495-500 (English) 1983. CODEN: JOCEAH. ISSN: 0022-3263.

L14 ANSWER 26 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB The x-ray photoelectron spectra (XPS) were recorded for a series of MoO₃-SiO₂ catalysts (contg. 4 or 10% Mo). These catalysts were prepd. from the Mo(II) carboxylates Mo₂(O₂CR)₄, where R = H, Me, CF₃, or Ph which contain a quadruple Mo-Mo bond. The Mo 3d and O 1s binding energies were measured for the calcined catalysts before and after their reaction with NO and CO. XPS evidence supports the presence of a mixt. of Mo(VI), Mo(V), and Mo(IV) sites on the surface of the calcined catalysts, while treatment with NO and CO leads to the formation of Mo(VI) and Mo(V), resp. The redox characteristics of the catalyst (i.e., Mo(VI) \rightleftharpoons Mo(V)) induced by NO and CO treatments are reversible as shown by cycling of the NO and CO in various sequences. ESR spectroscopy indicates that the surface changes monitored by XPS are also typical of the bulk, namely, Mo(V) with g = 1.93 is formed upon CO treatment but disappears in the presence of NO. The present XPS results are compared to relevant literature data for supported MoO₃ catalysts prepd. from more conventional starting materials. The MoO₃-SiO₂ prepd. from Mo₂(O₂CR)₄ may have different metal-support interactions from other MoO₃ systems.

1980:29089 Document No. 92:29089 The x-ray photoelectron spectra of heterogeneous catalysts. III. Catalysts derived from dimeric molybdenum(II) carboxylates on silica and their reactions with carbon monoxide, **nitric** oxide, and hydrogen. Best, S. A.; Squires, R. G.; Walton, R. A. (Dep. Chem. Chem. Eng., Purdue Univ., West Lafayette, IN, 47907, USA). J. Catal., 60(2), 171-83 (English) 1979. CODEN: JCTLA5. ISSN: 0021-9517.

L14 ANSWER 27 OF 27 CAPLUS COPYRIGHT 2001 ACS

AB Catalytic reactions of olefins with mercuric salts supported on active charcoal in the presence of O and steam yield unsatd. carbonyl compds. as major products. Treatment of the active charcoal with **nitric** acid is essential. Comparison with homogeneous oxymercuration of the kinetics, product distributions, and reactivities of olefins suggests that the heterogeneous reaction proceeds through a π -complex and π -allyl complex.

1974:403131 Document No. 81:3131 **Oxidation** of olefins with mercuric salts-active charcoal catalysts. Arai, Hiromichi; Uehara, Katsuya; Kunugi, Taisei (Fac. Eng., Univ. Tokyo, Tokyo, Japan). J. Catal., 33(3), 448-56 (English) 1974. CODEN: JCTLA5.

(54) **PRODUCTION OF 3,3,3-TRIFLUOROLACTIC ACID AND METHOD FOR IMPROVING OPTICAL PURITY**

- (11) 5-78277 (A) (43) 30.3.1993 (19) JP
 (21) Appl. No. 4-72168 (22) 24.2.1992 (33) JP (31) 91p.60979 (32) 4.3.1991
 (71) NIKKO KYODO CO LTD (72) TOSHIMASA KATAGIRI(1)
 (51) Int. Cl⁵. C07C59/115, C07B53/00, C07B57/00, C07C51/27, C07C51/43, C07C51/47

PURPOSE: To simply obtain the subject compound useful as a fluorine-containing raw material at a low cost by oxidizing 3,3,3-trifluoropropane-1,2-diol with an oxidizing agent.

CONSTITUTION: 3,3,3-Trifluoropropane-1,2-diol(TFPG) (preferably optically active TFPG) is preferably oxidized with nitric acid (at 60-30% concentration) in an amount of 0.1-1000mol equiv. based on the TFPG at $\geq 70^{\circ}\text{C}$ to afford the objective 3,3,3-trifluorolactic acid(TFLA) (preferably optically active TFLA). Furthermore, the optically active TFLA is recrystallized by using chloroform or methylene chloride or a mixed solvent thereof and an ether to improve the optical purity.

(54) **PRODUCTION OF 2-HYDROXYCARBOXYLIC ACID**

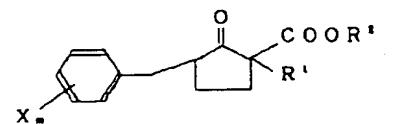
- (11) 5-78278 (A) (43) 30.3.1993 (19) JP
 (21) Appl. No. 4-72169 (22) 24.2.1992 (33) JP (31) 91p.103630 (32) 10.4.1991
 (71) NIKKO KYODO CO LTD (72) TOSHIMASA KATAGIRI(1)
 (51) Int. Cl⁵. C07C59/115, C07C51/27, C07C59/56

PURPOSE: To obtain the subject compound useful as a synthetic intermediate raw material for physiologically active substances such as medicines or agricultural chemicals, functional organic compounds such as liquid crystals or surfactants by oxidizing a compound having epoxy ring at the terminal with an oxidizing agent having protonic acidity.

CONSTITUTION: A compound (preferably 1,2-epoxyalkanes which are optically active substances) having epoxy ring at the terminal is oxidized with an oxidizing agent (preferably nitric acid or the nitric acid containing a small amount of a metal (salt) added thereto) having protonic acidity to afford the objective compound.

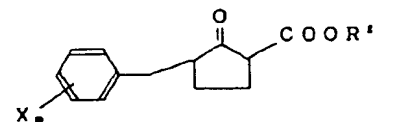
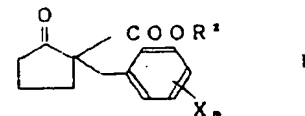
(54) **3-(NON-SUBSTITUTED OR SUBSTITUTED BENZYL)-1-ALKYL-2-OXOCYCLOPENTANE CARBOXYLIC ACID ALKYL ESTER DERIVATIVE, ITS PRODUCTION AND UTILIZATION AS GERMICIDE AND INTERMEDIATE**

- (11) 5-78282 (A) (43) 30.3.1993 (19) JP
 (21) Appl. No. 3-267073 (22) 18.9.1991
 (71) KUREHA CHEM IND CO LTD (72) ISAO ICHINOSE(3)
 (51) Int. Cl⁵. C07C69/757, A01N37/42, C07C67/343, C07C67/475, C07C255/57



PURPOSE: To provide the subject new compound useful as an intermediate for germicides, agricultural chemicals and MEDICINES.

CONSTITUTION: A compound of formula I (R¹, R² are lower alkyl; X' is halogen, cyano, alkyl, haloalkyl, phenyl, nitro; (phis 0-5). For example 3-(4-chlorobenzyl)-1-methyl-2-oxocyclopentane carboxylic acid methyl ester. The compound of formula I is obtained by benzylating a 2-oxocyclopentane carboxylic acid alkyl ester derivative with a (substituted), benzyl halide in the presence of an alkali metal base, converting the produced 1-((substituted)benzyl)-2-oxocyclopentane carboxylic acid alkyl ester derivative of formula II into a 3-((substituted)benzyl)-2-oxocyclopentane carboxylic acid alkyl ester derivative of formula III in the presence of a lower alcohol and an alkali metal lower alkoxide, distilling off the lower alcohol, and subsequently alkylating the product with an alkyl halide of formula R¹-Z¹.



L8 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2001 ACS

AN 2000:182846 CAPLUS

DN 132:208995

TI **Oxidation-** and chemically resistant polymer electrolytes, their manufacture, and their uses in ion exchangers, fuel cells, and automobiles

IN Kidai, Kiyoyuki; Morikawa, Hirofumi

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000080166	A2	20000321	JP 1999-191403	19990706
PRAI	JP 1998-190246		19980706		

AB The polymer electrolytes, useful for water treatment, electrolytic cells, dialysis, and fuel cells, comprise (A) poly(arylene sulfide sulfones) (PASS) and/or poly(arylene sulfones) (PAS) having ion-exchange groups or (B) base polymers having ion-exchange groups and PASS and/or PAS. Thus, poly(phenylene sulfide sulfone) was dissolved in N-methylpyrrolidone, applied on carbon paper, and immersed in H₂O to give a porous membrane, which was impregnated with a soln. contg. Nafion (ion-exchange resin) and dried to give an ion-exchange membrane showing av. oxidn. degree of S (except SO₃H group) 1.0, ion-exchange capacity 0.5 mequiv/g, and good resistance to oxidn. by Fenton reagents.

=> d 3 bib ab

L8 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2001 ACS

AN 1999:784057 CAPLUS

DN 132:22694

TI Process for producing **fluoroalkylcarboxylic acid**

IN Ichihara, Kazuyoshi; Aoyama, Hirokazu

PA Daikin Industries, Ltd., Japan

SO PCT Int. Appl., 19 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9962859	A1	19991209	WO 1999-JP2679	19990520

W: JP, US

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

EP 1085006 A1 20010321

EP 1999-921220 19990520

R: DE, FR, IT

PRAI JP 1998-154507 A 19980603

WO 1999-JP2679 W 19990520

OS CASREACT 132:22694; MARPAT 132:22694

AB Claimed is a process for producing a **fluoroalkylcarboxylic acid** represented by the general formula RfCO₂H (wherein Rf represents C₁-16 **fluoroalkyl**), characterized by oxidizing a **fluoroalkyl** alc. represented by the general formula RfCH₂OH (wherein Rf is the same

as

← This is the
present
Application.

the above) with nitric acid in the presence of a metal catalyst. By the process, a **fluoroalkylcarboxylic** acid, which is useful as raw material for surfactants, drugs, and agrochems., can be highly selectively produced at a low cost. Thus, $\text{H}(\text{CF}_2)_6\text{CH}_2\text{OH}$ 664.0, 55% HNO_3 114.6 g, and $\text{FeCl}_2 \cdot n\text{H}_2\text{O}$ 0.0066 g were placed in an autoclave and heated with stirring. The temp. and pressure reached 125.degree. and 0.6 MPa after 3.1 h. At this point, O was fed to the gas phase portionwise at 0.35 g for each time at a total of 46.72 g to control the pressure at 0.6 MPa. After 6.5 h, the reaction mixt. was phase-sepd. to give crude 765.78 g $\text{H}(\text{CH}_2)_6\text{CO}_2\text{H}$ which was purified by distn. to give 500.0 g $\text{H}(\text{CH}_2)_6\text{CO}_2\text{H}$ of .gtoreq.99% in 65.26% yield.

RE.CNT 14

RE

- (1) Anon; CA 1268187 A1 CAPLUS
- (2) Anon; EP 206054 A2 CAPLUS
- (3) Anon; DE 3522032 A1 CAPLUS
- (4) Anon; HU 44476 A CAPLUS
- (5) Anon; US 4976893 A CAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT